

*Introductory Addresses on the Science and Art Department
and the South Kensington Museum.*

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THE FUNCTIONS

OF THE

SCIENCE AND ART DEPARTMENT.

BY HENRY COLE, C.B.,

SECRETARY AND GENERAL SUPERINTENDENT.

(Delivered on 16th Nov. 1857.)



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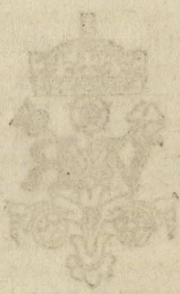
THE FUNCTIONS

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SCIENCE AND ART DEPARTMENT

BY HENRY COLE, C.B.

THE SCIENCE AND ART DEPARTMENT
OF THE
H.M. STATIONERY OFFICE
LONDON
1914



LONDON:
CHAPMAN AND HALL, 101, FLORENCE STREET



AN ADDRESS,

&c. &c.

1. IT has seemed right to the Lord President of the Council and the Vice-President of the Committee of Council on Education, to direct that a series of introductory explanations of the Science and Art Department should be given to the public during the present session, when, since the occurrence of several changes, most of its functions may be said to have come fairly into action. At the beginning of this year the Department was a branch of the Board of Trade, now it is a division of the Committee of Council on Education. Its offices, schools, and the Museum of Art were at Marlborough House, now they are at South Kensington. Moreover, the Department has become charged with the general superintendence of a Museum embracing many other objects besides those of Art, and several collections which are the property of private bodies.

2. Some who have but recently paid attention to the subject have thought that the Science and Art Department is a new creation of the Government, and have commented on the important item which its expenses make in the parliamentary estimates of the year. The Science and Art Department is rather a consolidation of institutions, most of

which have been long established, than the creation of any new ones. The oldest institution connected with the Department is the Royal Dublin Society, which as early as 1800 received an annual public grant of 15,500*l.*, a sum it disbursed without being subject to much parliamentary control. The School of Mines, Geological Museum in Jermyn Street, and Geological Survey were in process of organization from 1837 to 1851, and were placed under the Chief Commissioner of Public Works. The Industrial Museum of Ireland owes its origin to Sir Robert Peel in 1845, and was also subject to the Chief Commissioner of Works, whilst the School of Design, which is the parent of the present Schools of Art located in all parts of the United Kingdom, and supported mainly by local authority and action, was founded in 1837 by Mr. Poulett Thompson, afterwards Lord Sydenham, and was subject to the authority of the Board of Trade.

3. All these institutions had in view the promotion of scientific and artistic knowledge of an industrial tendency at the expense of the State, but they acted in different ways, independently of each other, and were subject to different kinds of ministerial responsibility. It can hardly be said that they reported their proceedings systematically to Parliament, but they made occasional returns, which were called for spasmodically and very much from accidental causes.

4. There are still other institutions for promoting Art and Science at the expense of the State, which in principle are the same as the institutions constituting the Department, and which might perhaps be usefully brought under more precise parliamentary responsibility, and be at least prevented from clashing with one another.

5. After the Exhibition of 1851, public opinion unanimously demanded that the State should give more systematic assistance to the scientific and

artistic education of the people than it had hitherto done; and it was an obvious process, and in accordance with the working of institutions in this country, rather to improve and consolidate what existed already than to create a new institution.

6. Accordingly in 1852, whilst Mr. Cardwell was President of the Board of Trade, the Royal Dublin Society, the Mining Museum and School in Jermyn Street, the Industrial Museums of Ireland and Scotland, with the Department of Practical Art, were united to form the Department of Science and Art under a single parliamentary authority, and were required to publish an annual statement of the results of their working.

7. One signally beneficial effect of this consolidation, has been to call increased public attention to these Institutions, and generally to lead the public more largely to demand the assistance offered by them than when they were insulated. But the bringing into one sum the cost of these institutions has led some to infer that Parliament has suddenly and largely increased its votes on behalf of Science and Art. In the year 1851, before any consolidation took place, the annual Parliamentary votes on behalf of these institutions exceeded 40,000*l*. Whilst for the last year, when the action has been greatly extended, numerous new duties undertaken, and the numbers of persons benefited in various ways increased many thousands, the parliamentary vote amounted to 73,000*l*.

8. The Science and Art Department now constitutes the division of the Committee of Council on Education charged with the duty of offering to the public increased means for promoting secondary or adult education. All the functions attaching to primary education remain as a separate division of the Committee of Council, and are carried on at Whitehall. The recent transfer of the Science and Art Department from the Board of Trade has not

affected them, except to enable the President and Vice-President to render the working of any points of contact between primary and secondary education harmonious and consistent.

9. The teaching of the applied sciences—chemistry, physics, natural history, mechanics, navigation, and the fine arts, taking drawing as an indispensable beginning,—constitutes the precise object of secondary education, developed in various ways by means of museums, schools, public examinations, payments for results, and the preparation of examples. Whatever advantages the Department is enabled to offer to the public may be obtained without requiring any denominational test which the primary division of the Education Board at the present time demands. Except in the case of the public museums, which the public enter without payment at certain times, the aid tendered by the Department can only be obtained by a voluntary co-operation on the part of the public, and moderate payments, varying according to the means of the applicants for instruction, afford the test that the assistance sought is really valued. To obtain the assistance of the Department in establishing schools, there must be subscriptions from the benevolent to provide a capital for starting—the fees of students provide in great measure the current expenses and a partial payment to the teachers, whilst the Department comes in aid in various ways in paying for the instruction itself. Under this system all classes are enabled to take their proper share in it, and equal opportunities are afforded to the whole people for developing any talents they may be endowed with. The work thus done is mainly done by the public itself on a self-supporting basis as far as possible, whilst the State avoids the error of continental systems, of taking the principal and dominant part in Secondary Education.

10. It has been said, and particularly in reference

to drawing, that the State is instructing people beyond their stations. I will not defend drawing, the necessity for which may be left to be dealt with in Mr. Burchett's lecture, except to say that Adam Smith half a century since observed, that "There is scarce a common trade which does not afford some opportunities of applying to it the principles of geometry and mechanics, and which would not therefore gradually exercise and improve the common people in those principles, the necessary introduction to the most sublime as well as to the most useful sciences. The public can encourage the acquisition of those most essential parts of education by giving small premiums and little badges of distinction to the children of the common people who excel in them." I will, however, answer the general argument against the over-education of the poor, by calling as my witness Archbishop Cranmer. It was proposed three centuries ago to admit to Canterbury Grammar School none but the sons of gentlemen; "Whereunto," as Strype in his Memorials relates, "the Most Reverend Father the Archbishop, being of a contrary mind, said, That he thought it not indifferent so to order the matter; 'for,' said he; 'poor men's children are many times endued with more singular gifts of nature, which are also the gifts of God, as with eloquence, memory, apt pronounciation, sobriety, and such like, and also commonly more apt to apply their study than is the gentleman's son, delicately educated.' Hereunto it was on the other part replied, 'that it was meet for the ploughman's son to go to plough, and the artificer's son to apply the trade of his parent's vocation; and the gentleman's children are meet to have the knowledge of government and rule in the Commonwealth. For we have,' said they, 'as much need of ploughmen as any other State; and all sorts of men may not go to school.' 'I

“ ‘grant,’ replied the Archbishop, ‘much of your
 “ ‘meaning herein as needful in a Commonwealth;
 “ ‘but yet utterly to exclude the ploughman’s son
 “ ‘and the poor man’s son from the benefits of learn-
 “ ‘ing, as though they were unworthy to have the
 “ ‘gifts of the Holy Ghost bestowed upon them as
 “ ‘well as upon others, is as much as to say as that
 “ ‘Almighty God should not be at liberty to bestow
 “ ‘His great gifts of grace upon any person, nor
 “ ‘nowhere else, but as we and other men shall
 “ ‘appoint them to be employed, according to our
 “ ‘fancy, and not according to His most godly will
 “ ‘and pleasure, Who giveth His gifts both of learn-
 “ ‘ing, and other perfections in all sciences, unto
 “ ‘all kinds and states of people indifferently.’”

* * * * *

“ The poor man’s son by painstaking will for the
 “ most part be learned, when the gentleman’s son
 “ will not take the pains to get it. And we are
 “ taught by the Scriptures that Almighty God
 “ raiseth up from the dunghill, and setteth him
 “ in high authority. And whensoever it pleaseth
 “ Him of His divine providence, He deposeth princes
 “ unto a right humble and poor estate. Wherefore
 “ if the gentleman’s son be apt to learning, let him
 “ be admitted; if not apt, let the poor man’s child
 “ that is apt enter his room.”

11. Some pains have been bestowed to take care that the facilities in obtaining increased knowledge in Science and Art offered by the State shall not weaken or supersede individual exertions, but, on the contrary, aid and stimulate them by doing only those things which must either be done by some central authority or would otherwise be left undone. The argument is still held, but with less pertinacity than heretofore,—the world becoming gradually more anxious to get at the great result than to quarrel about the means,—that the State ought to abstain from all interference whatever in

public education. One ground is that every thing should be left as much as possible to the *laissez faire* principle, and another, that whatever the State undertakes it must necessarily do less well than the individual could do it. Both these positions, true as broad principles, have in respect of public education been so unanswerably controverted by the first and most liberal of modern English writers on *Political Economy*, John Stuart Mill, that it is only necessary to refer to his work, where he proves that education is one of those things which it is admissible in principle that a Government should provide for the people, and that help in education is help towards doing without help, and is favourable to a spirit of independence.

12. Passing from the question of general education to the specific action of the Department, it will be right to give some instances of its functions which could not be carried out by any private agency. Neither Navigation Schools nor Schools of Art, in the present state of public intelligence, could well exist without the assistance that the State affords to them. The collecting of casts and examples of art from the national museums of other countries could only be systematically carried on by a Government agency. Already the French Government have permitted electrotypes and casts to be taken of the finest original works in the Louvre, Hôtel de Cluny, and Musée d'Artillerie, at Paris, and these repetitions may be seen in the Museum. Arrangements have been made to obtain similar privileges in Dresden, Berlin, Frankfort, Vienna, &c. Thus in a few years copies taken by means of electricity and photography of the great Art-treasures in Europe will be collected for the benefit of this country; and, by a self-acting process be distributed as prizes to local museums and schools, and thus will lay the foundations for the establishment of local museums of Art, wherever the people them-

selves may make the necessary arrangements for housing and preserving them. Another instance of the necessity for a central action, which may be open to public criticism, and be above the suspicion of partiality in administration, is shown by the establishment of the Educational Museum. This Museum is for the most part the assemblage of voluntary offerings of books, objects, and appliances for aiding education produced by different agencies, all competitors with one another. The producers of educational books and apparatus here willingly submit in competition to the public the publications they have issued. The public here may consult and compare together the different models of schools recommended by the National Society, the Home and Colonial Society, the Homerton College, and others. The Society of Arts, at the instigation of Mr. Harry Chester, originated the Educational Museum, and devoted several hundred pounds to its maintenance for a few months ; but the loss arising from this useful enterprise proved that no private agency could maintain an Educational Museum. Whilst, for the benefit of general literature, the copyright law obliges the publisher to send to the British Museum Library a copy of every work that he issues, the Educational Museum accomplishes for national education a similar object almost wholly by the voluntary contributions of producers. The State provides the house-room and custodyship, whilst the public themselves supply the contents.

13. A somewhat narrow defence of State interference in promoting Science and Art may be found in the influences which they exercise upon the material prosperity of the country. It seems almost a truism to say that the successful results of all human labour depend upon the right application of the laws of science, which are not the less necessary because they may be unknown. In the early life of a people those laws are employed empirically. The

savages of Lahore or Delhi have been great adepts in the application of the laws of colour to manufactures, and have had no Schools of Art. The hides of oxen, in all quarters of the globe, were made into leather by means of scientific principles, long before chemistry had been matured into a science. But in these days of the scientific discovery of Nature's laws, the value of production, in all its infinite varieties, is materially affected by the right application of those laws; and such is especially the case among the more modern nations. Follow the history of the sheep, for example, in all its details, as shown in the Animal Museum. Liebig has taught us how essential to success are the proper relations between the earth and the food of the sheep, and the mutual reaction of each of them. The Duke of Richmond and Mr. Jonas Webb know well enough how to apply scientific laws that influence the production in the same animal of the greatest quantity of the best wool for manufactures, and of the largest amount of mutton for food. In every stage of the preparation of wool, chemistry and mechanics are brought to bear. Since the beginning of the Patent Laws in this country up to 1852, when the reform took place, upwards of 370 Patents had been taken out bearing upon the preparation and uses of wool; and between 1852 and 1855, 142 Patents have been taken out. These facts only indicate, partially the amount of mechanical science applied. The combing, the carding, the drying, the felting, the spinning and weaving, are all good or bad in proportion as scientific laws are obeyed or not. And then, whether or not the garment, the hangings, the tapestry, and the carpet gratify the taste, is altogether dependent on the application of the laws which regulate beauty. To offer to every one in this kingdom the elementary knowledge whereby his labour may have the best chances of fruitful and profitable development, appears to be the aim, in its broadest sense, of all public expenditure on behalf of Science and Art.

14. I say elementary knowledge, because some years' experience and earnest efforts have now shown conclusively that State interference in any special technical teaching, founded upon the assumption of trade requirements, does not succeed. I confess myself to have been at one time of a contrary opinion, and to have thought that it was both possible and expedient that effect should be given to the professions originally made in establishing the School of Design. The Schools of Art were at first organized by the name of Schools of Design, and the intention of them was to instruct artisans only, so that they might improve manufactures in their design and execution, and make us more independent of our neighbours the French. Under this limited, and somewhat protectionist view, the schools were carried on with difficulty, constant controversy, and different systems of management, during fourteen years. In 1852, the Department of Practical Art was constituted; and although a system of elementary instruction was at once adopted, and made an essential part of the new system, the original object of educating artisans for special technicalities was not abandoned, but, on the contrary, increased efforts were made to realize it. Special classes of willing and competent students were formed to practise painting on porcelain, designing for woven fabrics, and metal working; and exhibitions of the value of 40*l.* a year were given to them. Competent special teachers were engaged, and it was certainly proved that students might be trained to a much higher standard of excellence than artisans employed by manufacturers. But when this was done, there was no adequate market for their labours. The employment of them would not pay the manufacturer. Out of four porcelain painters thus trained by the State, whose works were commended for their excellence in the Paris Exhibition, only one is employed directly by a manufacturer, and he obtains not more than 2*l.*

a week wages. They must have cost the State at least 150*l.* a piece, these four porcelain painters. The successful employment of highly skilled labour depends wholly upon the demand of the market, and this the public will best regulate for themselves without the meddling of Government. Government may respond to the public wishes, and help to give equal chances to all its people to be intelligent and cultivated, but if it assumes the function of the trader it must signally fail. Saxon porcelain is inferior to British porcelain, although there is a royal factory at Meissen, and the Paris public would buy our earthenware if they were permitted, notwithstanding the State has cultivated a band of unrivalled china-painters at Sèvres for a century past.

15. The total national expenditure for promoting Public Education and Science and Art in every way through the primary division of the Education Board, the British Museum, National Gallery, grants to Universities, and Grant to this Department, may be taken, at the present time, to be in round numbers a million of pounds sterling, which divided among our population, say, of 30,000,000, makes the contribution of each to average eight pence per head per annum. It is difficult to calculate the annual value of the production of this country ; but I think, seeing that our imports and exports last year amounted to 288,545,680*l.*, it is not an over estimate to place it as being worth 400,000,000*l.* a year. The State contribution towards Education, Science, and Art, which vitally influences this enormous amount, bears therefore the proportion of the outlay of one pound on behalf of Education, Science, and Art for every 400*l.* of production, or one penny in every 1*l.* 13*s.* 4*d.* The annual Parliamentary vote for the Science and Art Department only, being under 75,000*l.* is less than a five-thousandth part of the estimated annual production, and is

about a thousandth part of the annual taxation of the country. It is as if a man with 1,000*l.* a year devoted 2*l.* 6*s.* 3*d.* a year to the general education of his children, and gave them the additional advantages of drawing lessons and a little navigation, at a cost to himself of 3*s.* 9*d.* a year. In the same proportion the agricultural labourer, who earns only 25*l.* a year, devotes 1*s.* 3*d.* to the education of his family, and has to deny himself the luxury of half a pint of beer a year, in helping his children to a knowledge of drawing, and enabling them to cut and rule straight lines.

16. It may be pointed out, at least as a coincidence worthy to be remembered by any who oppose State aid towards education, that whilst democratic power in this country has increased, so a demand upon the Government to exercise certain new functions has increased also. As the people have felt their wants, and have had power to express them in Parliament, so the central authority has been called upon to administer to these wants, and it is the Government itself rather than the people which has endeavoured to obtain and preserve as much local co-operation as possible. This has been the case especially with the subjects of public education, in which, so far as I have observed, it is the complaint of localities, and particularly where the jealousy of local authority is hottest, that the Government does not do enough for them. The Education Boards in England and Ireland, the Schools of Design, and the greater number of the grants for promoting Science and Art, have all arisen since the passing of the Reform Bill in 1830. It was rather the influence of the Crown that created the Royal Academy in 1768 than any public demand. And so feeble was the expression of public opinion through the Commons representatives in 1810 on the subject of Public Galleries, even if it existed at all, that the then Chancellor of the Exchequer is said to have

refused to accept the Dulwich Gallery of Pictures as a gift to the nation, on the condition of housing and taking care of the Pictures. Last year the Government, through Lord Stanley of Alderley as President of the Board of Trade, built a structure on their own responsibility to secure Mr. Sheepshanks' munificent gift of pictures, valued at 60,000*l.*, and Parliament afterwards cheerfully voted a sum, under 5,000*l.*, requisite for its cost. In half a century such has been the change of public opinion in respect of National Galleries of Pictures.

17. Indeed, it is proved that as a people become intelligent and free, so are they likely to demand Public Education and to be willing to pay for it. Manchester, the scene of the Peterloo riots in 1814, where the democratic feeling has certainly not diminished, although it is perceptibly tempered by increased intelligence, is among the first places in this country to agree to a local rate to support a Free Library, and this willingness to tax themselves for Education is remarkable chiefly on the part of largely populated manufacturing centres, where the politics are what may be termed ultra-liberal. Salford, Bolton, Sheffield, Norwich, Kidderminster, Preston, all tax themselves for Free Libraries. The only case of a manufacturing town hitherto refusing a rate has been Birmingham, certainly a democratic place, but this very exception may be taken to prove the rule that the demand for popular education is in fact a democratic one. In America the demand for popular education, even compulsory, is greater than in any part of the civilized world.

18. The Department fully recognizes the broad principle that, in all its proceedings, it is itself the servant of, or rather perhaps a partner with, the public. Having essayed to discover what appear to be public wants in the promotion of Science and Art, the course of the Department is matured by the Committee of Council on Education and published;

and it rests wholly with the public to accept or not the offer of assistance thus made. In the main the assistance is offered to the poor ; in some instances, as in grants for examples, it is absolutely limited to the poor ; but where arrangements can be made so that all classes may benefit, and the richer be induced to help the poorer, the aid and encouragement are open to all. The various prizes offered by the Department are taken absolutely on merits by all classes, and the tendency in the administration of the Department, as far as it may be possible, is rather to expend the public funds in paying for successful results secured, leaving the public free to produce the results in any way, rather than to dictate systems or to undertake to carry them out by a direct agency. The Department makes no pretence to infallibility. In proportion as the public will acquire Science and Art in their own way, so does its interference become unnecessary, and its greatest triumph would be the day when every working man will be able and willing to pay the necessary cost of teaching his child to add two to two, and to draw a straight line, without any State assistance. In the meantime, accuracy in addition and straight lines are a national want, and, through the Department, the public seek to obtain State help in the production of them.

19. Inheriting the old Schools of Design, the Department, on behalf of Art, exercises a more direct and positive action than for Science ; but even in Art everyone may take any of the advantages offered, either in recommendations to masterships or prizes, whenever he may have acquired the requisite ability. It is not essential that he should have been a student in any School of Art. At present it seems necessary to have a Central Training School of Art for masters. There are no symptoms whatever that, if this function were not undertaken by the State, it would be performed at

all; and certainly the provision of competent teachers is a first necessity to promote knowledge. Any one, however, can offer himself for a certificate of competency, although he has not been trained in the school. But the feebleness of voluntary efforts is shown in the fact that, since its establishment five years ago, only one person, not a student, has offered himself for such examination and succeeded at once in obtaining an Art master's certificate.

20. It is not contemplated to create any Central Training School for Science masters. It is hoped that the public may be induced to do this work for itself;—that masters for Science, like masters for primary education, will be forthcoming through the agency of the various training schools in the country, and that it will be sufficient if the Department assists in paying for their training and certifies them as competent.

21. The establishment of a Local School of Science, Navigation, or of Art originates entirely with the locality that wants it, and before the Department acts, certain things must be done, suitable premises must be found, and a certain constituency registered as being willing to be taught for a given time. The Department then grants partial aid in furnishing the necessary examples, recommends a master, who is appointed by the local committee if approved, inspects the working, tests the results by examination, and awards prizes. This partnership having been thus matured, all the advantages of the Central Museum and Library, and any experience the Department may have to offer, are placed at the disposal of every school, to use as it finds occasion.

22. The number of Navigation or Science schools of all kinds at the present time in connexion with the Department is twenty-two. The number of Schools of Art throughout the United Kingdom at the present time is sixty-nine; and, according to the last returns, they were the means of educating

upwards of 35,000 students in drawing and painting. These numbers include children in poor schools under instruction in drawing. Since the Schools of Design were expanded into Schools of Art, and made to embrace the teaching of drawing in public schools, the progress has been as follows:—In 1851, 3,296 students learning drawing cost the State 3*l.* 2*s.* 4*d.* each. In 1856, 35,000 students cost the State about 15*s.* each, as nearly as can be estimated. But this number is really insignificant, being a trifle more than 1 in 1,000 of the population, and it is disheartening to feel that, according to the present state of public feeling for Art, perhaps half a century must elapse before every mechanic will have had the means in his youth of acquiring those elementary principles of Art which would improve the daily work of his future life.

23. It is not made necessary to create separate and special schools for teaching elementary science and drawing. Rules are established whereby they may be introduced into primary and existing public schools. Ten or fewer primary schools, offering in the aggregate 500 children for instruction in drawing, may obtain the services of a certificated teacher of Art, and the aid of the Department. This is a temporary measure until the general schoolmasters have acquired the power of teaching drawing concurrently with writing. The Primary Division of the Education Board will add eight pounds annually to the schoolmaster's certificate allowance when he is able to do this. It will be a great step when one town can show that drawing is taught in all its public schools; the schoolmasters teaching the elements, and the Art master of the district teaching an advanced class and inspecting the whole. Besides this direct action, the Department further aids by examination and prizes. There are three grades of examinations, and every one, however taught, is free to offer himself or herself for examination and

take the prize attached to the grade. These prizes begin with a pair of compasses, and terminate with ten pounds' worth of works of art given to the School of Art which produces the student who successfully competes with all the other students of the whole schools.

24. These prizes themselves exert generally a beneficial influence. A trade in cheap drawing instruments and drawing boards has almost been created since these prizes were instituted. The electrotype reproductions being in the general market, cannot fail to improve public taste. And the publication of such works as Owen Jones' on Ornament is assisted by them, without engaging the State in the business of a publisher, as on the Continent.

25. The suggestion of improved diagrams and examples is another function of the Department. It is not too much to say, that the publication of Diagrams like Professor Henslow's for Botany, Mr. Patterson's for Zoology, and Mr. Marshall's for Physiology, all suggested by the Department, but published in the ordinary channels of trade, are the best which can be shown in Europe. In the Paris Exhibition there was no parallel exhibition to our own of the aids for teaching Science and Art, and this result is due to the abstinence of the Department from invading the province of the tradesman, which is too common abroad. In the use of these examples by poor schools only, the Department is authorized to grant an aid of about forty per cent. Since this system was instituted in 1852, upwards of 1,500 public schools have been assisted, and all the private schools in the country have had better examples placed before them.

26. It is not necessary for me to detain you with any account of the relations between the Department and the three great Industrial Museums for Science in London, Dublin, and Edinburgh. Dr.

Lyon Playfair, the Inspector General for Science, will speak fully of these in his lecture, so I pass to the subject of the collections now opened to the public at South Kensington, which on several accounts seem to call for a somewhat detailed notice.

27. It has been said that the contents of the Museum here are very heterogeneous, although Science or Art is the basis of all the collections. The remark is just. These collections come together simply because space was provided for their reception. For years they had been for the most part either packed away unseen, or were very inadequately exhibited, and the public deprived of the use of them. The architectural collections belonging to the Department for years were buried in the cellars of Somerset House, and were but most imperfectly shown at Marlborough House. The prints and drawings possessed by the Department had never been seen by the general public. The casts of the Architectural Museum are surely better displayed here than in Cannon Row. The union of these collections, and the addition of the models of St. Paul's and various classical buildings, betoken what an Architectural Museum may become, if the individuals and the State will act together. Every foreigner who has seen this commencement sees in it the germ of the finest Architectural Museum in Europe, if the public support the attempt. But for this iron shed, a Patent Museum might have remained a theory. The educational collections were packed away for three years unused, awaiting only house-room to show them. Since the Exhibition of 1851, the Commissioners had been compelled to store away the Trade collections which either are so attractive here, or have been usefully distributed to local museums. The Iron Museum is only to be regarded as a temporary refuge for destitute collections.

28. Besides proving the public value of these collections, the provision of space has signally

demonstrated the willingness of the public to co-operate with the State when space is found. The Museum, covering above an acre, is already more than filled, although every division of it is far from complete. But even the present collections, crude and imperfect as they are, have sufficiently attracted public attention, to confirm their public utility; and it may be expected that the public will not grudge that proper house-room for their more systematic arrangement and development should be provided. It was prudent at least to try the experiment, which has been fully justified by success. Distinct buildings of a permanent and suitable character are wanted for the Patent Collection; for the products of the Animal Kingdom, which logically seems to be an appendix to the national collection of the animals in the British Museum; and for the collections of Education and of Art, as well architectural as pictorial, sculptural, and decorative. For each of these collections prudence would provide very ample space, as they must continue to grow as long as they exist. Models of patented inventions, specimens of animal produce, architectural casts, objects of ornamental art, and sculpture, cannot be packed as closely as books or prints in a library. They require to be well seen in order to make proper use of them; and it will here be a canon for future management that everything shall be seen and be made as intelligible as possible by descriptive labels. Other collections may attract the learned to explore them, but these will be arranged so clearly that they may woo the ignorant to examine them. This Museum will be like a book with its pages always open, and not shut. It already shows something like the intention which it is proposed to carry out. Visitors may see in the system of labelling, especially in the Animal Collection, how instructive everything may be made. What would be otherwise passed unheeded or despised thus becomes a subject of interest. Although

ample catalogues and guides are prepared and are preparing, it will not be necessary for the poor man to buy one, to understand what he is looking at.

29. Every facility is afforded to copy and study in the Museum. As many as twenty-five persons in a day, interested in education, have attended to consult the educational collections. At a low rate of fee photographs may be ordered officially, as well as casts or moulds of any object of ornamental art.

30. As future lectures will explain each collection and its objects in detail, I pass on with the single remark that these collections are for the most part of such a character, that unless they were supported or materially assisted by public taxation they could hardly exist. This observation applies particularly to the models of Patented Inventions, Education, and Architectural and Decorative Art. Even with Architecture, it may be doubted if any private association could permanently maintain a comprehensive collection of a severe professional character, where the specimens were preserved with all their defects, and not restored or decorated. The mere space that an architectural collection illustrating all styles would fill, would seem to be beyond the success of any private voluntary efforts to provide and maintain.

31. The public attendance at this Museum thus far has been very remarkable. Since the Museum was opened in the middle of last June the average numbers attending monthly have been upwards of forty-four thousands. At Marlborough House during the year 1855, being the last before the removal, the average numbers attending monthly were only seven thousand eight hundred. Should the rate of the present numbers be maintained they will be above half a million in the year, and exceed the numbers who visited the British Museum in 1854 and 1855, as well as the visitors to the National Gallery both at Charing Cross, and Marlborough House, which

together, in 1856, were only 435,990. It had been predicted that the numbers who attended the Museum at Marlborough House would not be maintained here; but the facts have disproved the prophecy, and now it appears that, notwithstanding the supposed disadvantage of site, the attraction having been increased, has more than overcome the diminished facility of access. This fact adds another proof to those signally shown by the Exhibition of 1851, and still more by the Crystal Palace at Sydenham, which have proved conclusively that it is the attraction and not the site which regulates the numbers of visitors. At the Crystal Palace thousands incur the cost of travel, and pay for admission, exceeding the total of all the visitors to all the gratuitous public museums in the metropolis. Since this Museum has been opened, the rate of attendance has shown that, as respects the convenience of the public, its site is as good as that of Russell Square, Marlborough House, or Trafalgar Square, or the Adelphi, all of them sites which, on a plan, seem to be more in the centre of the population, whilst they are certainly more smoky. The numbers who have thus been led to visit the models of Patented Inventions at South Kensington have, in the proportion of thirty to one, exceeded the visitors to the Annual Exhibition of Patented Novelties which takes place in the rooms of the Society of Arts in the Adelphi, in theory a central situation most easy of access. No doubt the visitors to the Patented Inventions have been largely augmented by the visitors to other collections.

32. It has been the aim to make the mode of admission as acceptable as possible to all classes of visitors. Unlike any other public museum, this is open every day, on three days and two evenings, which gives five separate times of admission, making in summer an aggregate of thirty hours weekly free to every one. On the other three days

and one evening it is free to students whose studies would be prevented by crowds of visitors ; but, on these occasions, the public is not turned away, as a fee of sixpence gives every one the right of admission as a student ; at the National Gallery and British Museum the public are excluded on students' or private days. Here it cannot be said there are any private days. The wish expressed by Mr. Sheepshanks, that his pictures should be shown to the working classes on Sunday afternoons, and urged upon the Lord President of the Council by by an influential deputation of them, has not yet been realized.

33. For the first time, the experiment has been tried of opening a public museum in the evening, to ascertain practically what hours are most convenient to the working classes. It is much less for the rich that the State should provide public galleries of paintings and objects of art and science, than for those classes who would be absolutely destitute of the enjoyment of them, unless they were provided by the State. Although the Museum is open free for an average of twenty-one hours weekly in the daytime, and only for six hours in the evening, the visitors in the evening exceed those of the day by more than one-fourth. The numbers in the daytime, up to the end of October, have been 85,000, whilst those in the evening have been 110,000, or nearly five times the number that might have been expected. An observation of the evening visitors clearly proves, that a large proportion of them are not of a class who can frequent public museums in the daytime, excepting at Christmas and Easter holidays. On Monday nights especially, great numbers are strictly of the working classes, to whom a day's visit would entail the loss of a day's wages, unless they happened to be out of work. There are not many of us who would visit public museums, if every visit cost us a day's earnings.

The fact that public galleries are not as much used by the working classes as could be wished is also confirmed by some returns of workmen's attendance at the National Gallery, which were furnished to the Commissioners for determining the Site of the National Gallery. Out of seven hundred and nineteen workmen employed by twenty-three firms of all trades,—butchers, upholsterers, locksmiths, builders, brewers, and the like,—only 316 visited the National Gallery in a year, whilst 403 workmen did not. Similar returns have been furnished by the following, all of whom employ skilled labour. Messrs. Holland, upholsterers, Mount Street* employ 504 persons, of whom 48 have visited the National Gallery once in the year, 26 more than once, and 430 not at all. Messrs. Garrard, goldsmiths, Haymarket, employ 96 persons, of whom 29 visited the National Gallery more than once, and 67 not at all. Mr. Crace, decorator, Wigmore Street, employs 150 persons, of whom 14 went once to the National Gallery, 10 more than once, and 136 not at all. Mr. Kelk, builder, employs 919 persons, of whom 75 went once to the National Gallery, 67 more than once, and 777 not at all. Let it not be said after

* RETURN for the Year ending May 31, 1857.

Name of Firm.	Address.	Number of Persons in their employment.	Number of Persons who paid one visit to				Number of Persons who paid more than one visit to				Number of Persons who did not go at all to						
			National Gallery.	Greenwich.	Kew.	British Museum.	National Gallery.	Greenwich.	Kew.	British Museum.	National Gallery.	Greenwich.	Kew.	British Museum.			
Holland & Sons	- 23, Mount Street -	504	48	160	90	50	86	26	58	64	47	43	430	286	350	407	375
R. & S. Garrard & Co.	{ Panton Street and Haymarket }	96	-	-	-	-	15	29	9	9	41	-	67	87	87	55	81
John Kelk	- { 13, South Street, Grosvenor Sq. }	919	75	65	77	116	61	67	58	38	60	50	777	796	804	753	808
John G. Crace	- 14, Wigmore Street	150	14	16	18	20	10	10	9	6	12	6	136	134	132	130	140

these facts that our National Galleries are for the use of the artizans who live by their daily labour. In the evening, the working man comes to this Museum from his one or two dimly lighted, cheerless dwelling-rooms, in his fustian jacket, with his shirt collars a little trimmed up, accompanied by his threes, and fours, and fives of little fustian jackets, a wife, in her best bonnet, and a baby, of course, under her shawl. The looks of surprise and pleasure of the whole party when they first observe the brilliant lighting inside the Museum show what a new, acceptable, and wholesome excitement this evening entertainment affords to all of them. Perhaps the evening opening of Public Museums may furnish a powerful antidote to the gin palace. It is hardly necessary to say, since we have had above 110,000 evening visitors not a single case of misconduct has occurred.

34. The Museum is open for the three first evenings a week to the public, but a rule has been made which enables any private society promoting science and art to have the Museum or the Lecture Theatre lighted up for their use upon paying the expenses of lighting and attendants on those nights when the Museum is closed. In affording to societies and individuals the privilege of using the lecture room, of course it will be understood that the Department is not reponsible for any opinions on Science and Art which may be delivered. The series of lectures promised by Messrs. Scott, Ruskin, Brandon, Parker, Street, and Bowtell, in illustration of their Architectural Museum, Professor Owen on the Animal Collection, and Mr. Fergusson on an Architectural Museum, will be unrestricted speeches independent of the Department, and for which only the distinguished individuals delivering them are answerable.

35. The perfect success of these evening meetings in the Museum is one of the most gratifying results

of the new arrangements, and I doubt if the most vigorous opponent of state assistance would venture to denounce them to an audience of working men as not worth the cost.

36. It is satisfactory to be able to say that even Mr. Braidwood, the Superintendent of the London Fire Brigade, considers the risks of lighting to be small, under the system of precautions adopted and effectively carried out by the Royal Engineers, who in return for this valuable public service derive from the Department the advantages of a thorough instruction in freehand and mechanical drawing and photography.

37. But it is not only as a metropolitan institution that this Museum is to be looked at. Its destiny is rather to become the central storehouse or treasury of Science and Art for the use of the whole kingdom. As soon as arrangements are made, it is proposed that any object that can properly be circulated to localities, should be sent upon a demand being made by the local authorities. The principle is already fully at work, and its extension to meet the public wants depends altogether upon the means which the public may induce Parliament to furnish. It may be hoped by this principle of circulation to stimulate localities to establish museums and libraries for themselves, or at least to provide proper accommodation to receive specimens lent for exhibition.

38. An essential condition to enable this plan to be carried out satisfactorily is ample space, and fortunately this space is provided by the present site, which could not be obtained without enormous cost at any nearer point to the centre of London. Of course, any other spot, at Birmingham or Derby would serve equally well as a centre for radiation. But the present site has in addition the public advantages of having a larger resident population than any provincial town, and it may be borne in mind that half the population of the metropolis is

made up of natives of the provinces. Whilst every one applauded the local spirit which established the Art Treasures Exhibition at Manchester, even Mr. T. Fairbairn would now admit that the exhibition would have produced greater pecuniary results for Manchester itself had it taken place in the metropolis, and the profits of the exhibition been applied to the benefit of Art in Manchester.

39. Mr. Sheepskanks' noble gift of pictures establishes either Kensington as the central receptacle for them, or if not Kensington then Cambridge, whilst it permits the loan of them to local Schools of Art. Mr. Sheepshanks has thus laid the foundation of a system whereby national pictures may be circulated to country galleries. If sufficient house-room be provided by the nation at Kensington, doubtless other public benefactors will follow Mr. Sheepshanks' good example, and make other gifts from which every local gallery of Art may derive its share of advantages.

40. For more than fifty years, long before railways offered increased facilities of transport, the principle of lending pictures to the British Institution in London has been successfully in action, and the most precious works of art from private galleries have been ungrudgingly stript from the walls of their owners and lent annually for the benefit of a limited public. Annual exhibitions of modern paintings, lent for the purpose, take place in Liverpool, Manchester, Birmingham, Glasgow, and elsewhere. And what the wealthy classes have thus done for themselves may now be done for the benefit of the poorer classes in their own localities through the instrumentality of the South Kensington Museum acting in concert with local aid.

41. The number of works of the highest art is limited and it cannot be expected that every local gallery can possess many of them, but the mode of circulation alluded to would afford to every local

gallery the qualification of having each some in turn. The circulation of pictures has yet to be commenced, but other works of art have been sent round to local Schools of Art for some time past. A collection of Examples from the Museum of Ornamental Art, aided by loans of Sèvres Porcelain from Her Majesty's Collection, is now being circulated to every School of Art, where it remains for exhibition for a few weeks. Where the local appreciation of its value is lively, and local proprietors of works of Art assist by loans the exhibition becomes a source of profit to the school. Hanley in the Potteries, for instance, by means of the Department's exhibition, coupled with Mr. J. L. Ricardo's pictures, attracted above 20,500 visitors, and secured about 200*l.* profit, which was applied to the benefit of the school. At Birmingham the number of visitors was 12,711, whilst the total number of visits which have been made to the Travelling Museum since the plan was commenced has been above 135,000.

42. The Library of Art at South Kensington is now also made the circulating library for the whole of the United Kingdom, and every School of Art has the privilege of borrowing the most valuable books, prints, &c., upon the single condition of guaranteeing their safe and punctual return.

43. In conclusion, I may say that the Department maintains two principles of administration which are essential to all sound management, and both of nearly equal importance. All administration carried on either by central governments, or parish vestries, or joint stock companies, to be good, must insure, first, responsibility as direct, clear, and as defined and individual as possible, and, second, full publicity; without these all *corporate* action must become corrupt and torpid, let the body consist of legislators, or local tradesmen, or mercantile adventurers. Without tight responsi-

bility and the wholesome check of publicity, human frailty is too apt to indulge in its own selfishness uncontrolled, and recent instances have occurred which have shown that private corporate action is even more corrupt than any local or central government action can be, because the publicity is the less. Still, with every human contrivance all corporate action must be inferior to individual action, because the responsibility cannot be rendered so perfect. Corporations do not and cannot pay the penalty of mistakes like individuals. Individual responsibility in the working of this Department is carried out as far as seems possible. A President in the House of Lords; a Vice-President in the House of Commons, with individual directors, personally responsible, who are appointed over each of the Museums and Schools of Science in London, Dublin, and Scotland. There is an Inspector-General for Science and another for Art, by whose advice the Committee of Council is guided professionally. Subordinate to them, but preserving the principle of individual responsibility, there are a head of the Training School for Art, and separate Keepers of the Collections of Art and Education. In the relations with local committees provision is made to insure clear responsibilities and adequate publicity in the proceedings. The masters of the Schools of Navigation and Art and Science are appointed and dismissed by the local committees. There is no divided authority; whilst the Department merely recognises results, about which there can be no dispute, and rewards them. Publicity is indeed the keystone of the action of this Department; and it can only prosper in proportion as the public is made acquainted with its proceedings and values them. But it has been feebly asserted that we conceal information. A Parliamentary return was called for last year, intended to show how some of the Parliamentary votes for science and art had been

expended. Certain Government departments were mixed up with private societies, some of which, like the Royal Society, are entrusted with a public grant to spend wholly at their discretion. Public departments have very little room for discretion in their expenditure, as the individual items are first approved by Parliament before the money is voted. The details of the expenditure of an annual thousand pounds bestowed in confidence on a private society are not difficult or lengthy to be given, and were given; but because similar details were not repeated by the British Museum and this Department, which had already been first submitted in the estimates to Parliament, reported again in the annual published reports, and submitted in microscopic detail to the Audit Office, it was remarked that there was a desire for concealment. A similar return has been ordered again this year, and every payment will be detailed, and it is hoped that the printing of the State payment to a pupil-teacher and for drawing copies to a school in Cornwall or Aberdeen may be considered a profitable expenditure. It may be asserted that there is not a single detail in the action of this Department—in its schools, examinations, award of prizes, museums, and libraries—which does not invite the fullest publicity. Every purchase in the Museum and Library is publicly exposed, and may be criticised. Even the prices of the articles are published. The schools, both metropolitan and local, are open to all, and the course of teaching seen. The works produced are publicly exhibited in town and country. The prizes, awarded by judges beyond suspicion, court public criticism. All the rules upon which payments in aid are made to localities and masters, &c., are amply set forth in a Directory, a counterpart of which is furnished only, I believe, by one other Government department, namely, the Post Office. So far, indeed, from being open to the

charge of any concealment, I believe the Department may be, if anything, chargeable with needless publicity. If this be error, it is one on the safe side. I am sure I represent correctly the views of my superiors, the Lord President of the Council and the Vice-President of the Education Committee, in declaring their feeling to be that, as the Department is subjected to public investigation, so will its action be healthy and the fulfilment of its functions be complete.